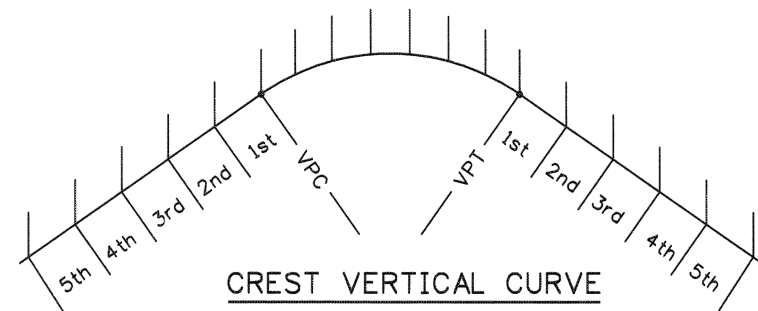


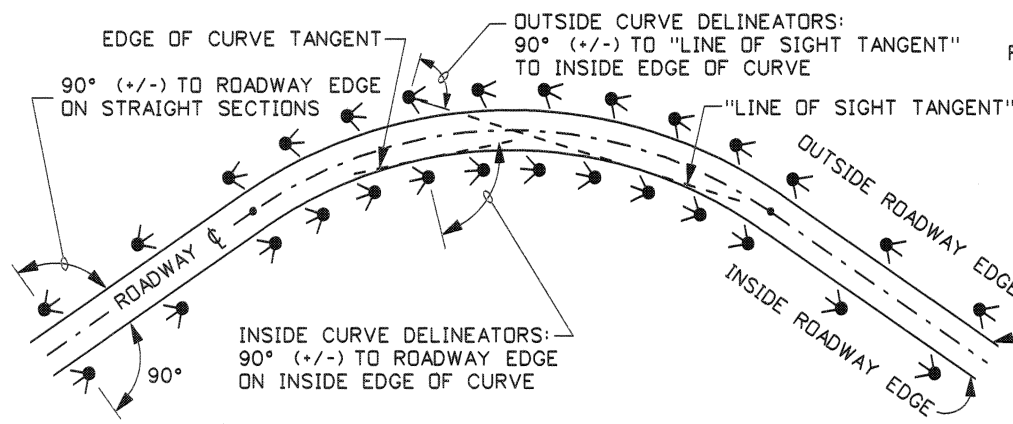
HORIZONTAL CURVE

* a (SEE SUB-NOTES) SPACING FOR HORIZONTAL CURVES				
DEGREE OF CURVE	SPACING ON CURVE	1st SPACE BEYOND PCS, PSC, PC, PT	2nd SPACE BEYOND PCS, PSC, PC, PT	3rd SPACE BEYOND PCS, PSC, PC, PT
0° - 0.9°	300	528	528	528
1.0° - 3.9°	150	300	528	528
4.0° - 11.9°	100	200	300	528
12.0° - 23.9°	75	150	225	528
24.0° - UP	50	100	150	300



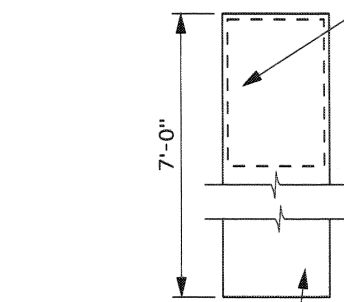
CREST VERTICAL CURVE

* a (SEE SUB-NOTES) SPACING FOR VERTICAL CURVES						
K * b (SEE SUB-NOTES)	SPACING ON CURVE	1st SPACE BEYOND VPC OR VPT	2nd SPACE BEYOND VPC OR VPT	3rd SPACE BEYOND VPC OR VPT	4th SPACE BEYOND VPC OR VPT	5th SPACE BEYOND VPC OR VPT
OVER 550	528	528	528	528	528	528
400-549	300	528	528	528	528	528
200-399	200	300	528	528	528	528
100-199	100	150	200	300	528	528
50-99	75	100	150	200	300	528
0-49	50	75	100	150	200	300



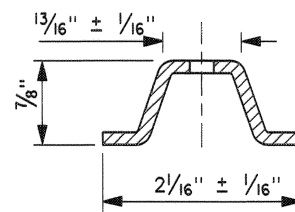
DELINEATOR ORIENTATION ON HORIZONTAL CURVES

REFLECTORS MOUNTED AS PER MANUFACTURER'S SPECIFICATIONS

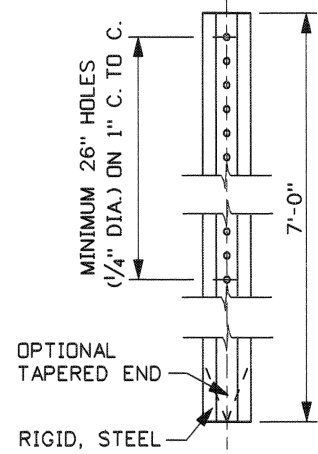


FLEXIBLE, FIBER REINFORCED COMPOSITE

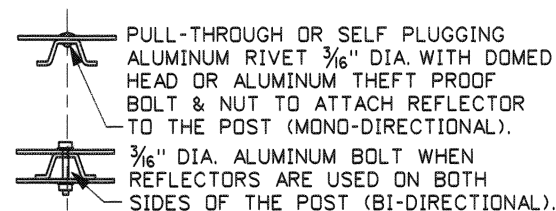
REFLECTOR MOUNTING



SECTION VIEW



FRONT - ELEVATION

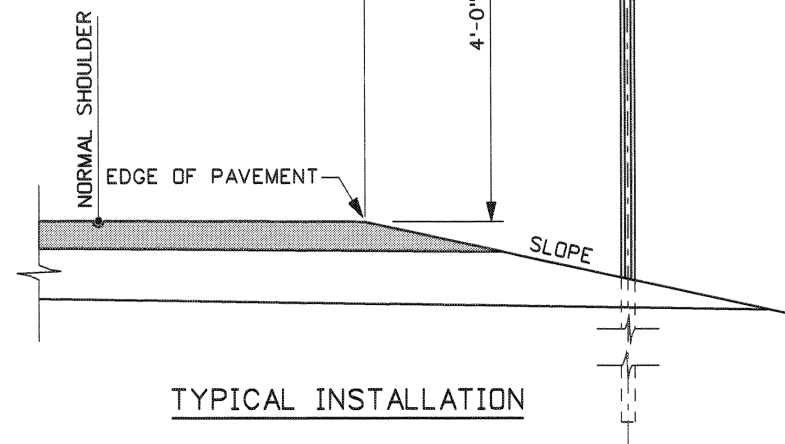


REFLECTOR TO POST ATTACHMENT

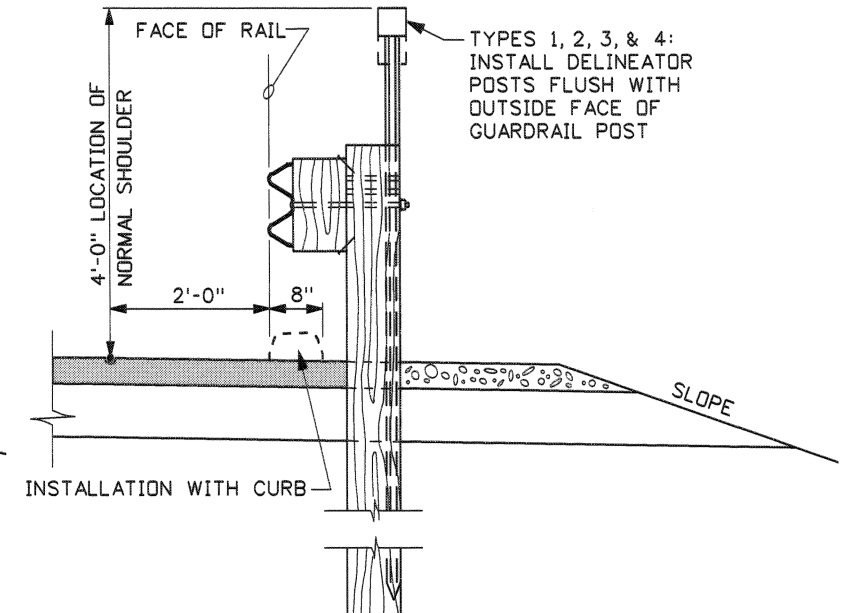
POST "F" DETAILS

LATERAL PLACEMENT	
SLOPE	OFFSET
4:1	4'-0"-6'-0"
6:1 OR FLATTER	6'-0"-8'-0"
CURB SECTION	6'-0"
SPECIAL CONDITIONS	8'-0"

* c (SEE SUB-NOTES)

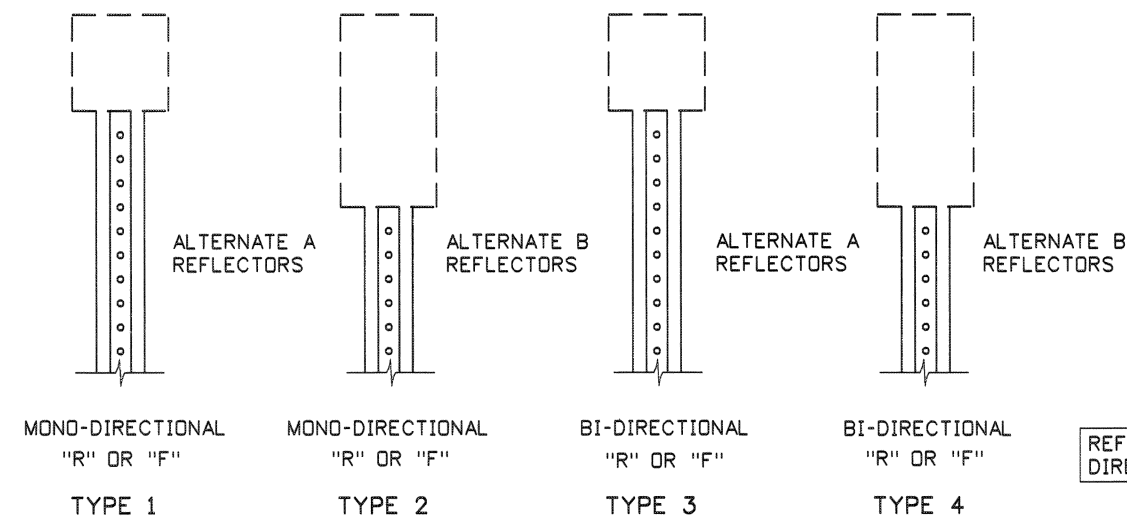


TYPICAL INSTALLATION

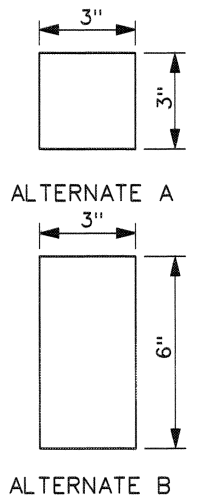


INSTALLATION WITH CURB

INSTALLATION WITH W-BEAM
(NOTE: THRIE-BEAM INSTALLATIONS INCLUDED)



REFLECTOR DETAILS



ALTERNATE B

REFLECTORS MOUNTED ON ALUMINUM OR DIRECTLY APPLIED TO FLEXIBLE POST REFLECTIVE SHEETING

SUB-NOTES	
* a	THE DELINEATOR DISTANCE SHALL BE ROUNDED TO THE NEAREST 10' WHEN INSTALLED ON CONCRETE BARRIER.
* b	K = L/A WHERE: L = LENGTH OF VERTICAL CURVE IN FEET. A = ALGEBRAIC CHANGE OF GRADE IN PERCENT. (EXAMPLES: GRADES ARE +3% & -2%, A = 5 OR GRADES ARE +3% & +1%, A = 2)
* c	PLACEMENT SHALL BE KEPT CONSTANT ALONG ROADWAY UNLESS OBSTRUCTED

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	6-05	MSM					

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME g3a_0605.std
DRWG. ORIG. DATE: DECEMBER, 2002

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

Assistant Chief Engineer (Development)

Chief Engineer

STANDARD DRAWING

DELINEATORS & INSTALLATION

REQUIRES SHEET 2 OF 2

English

STANDARD DRWG. NO. G-3-A

SHEET 1 OF 2

PROFESSIONAL ENGINEER

REGISTERED

6256

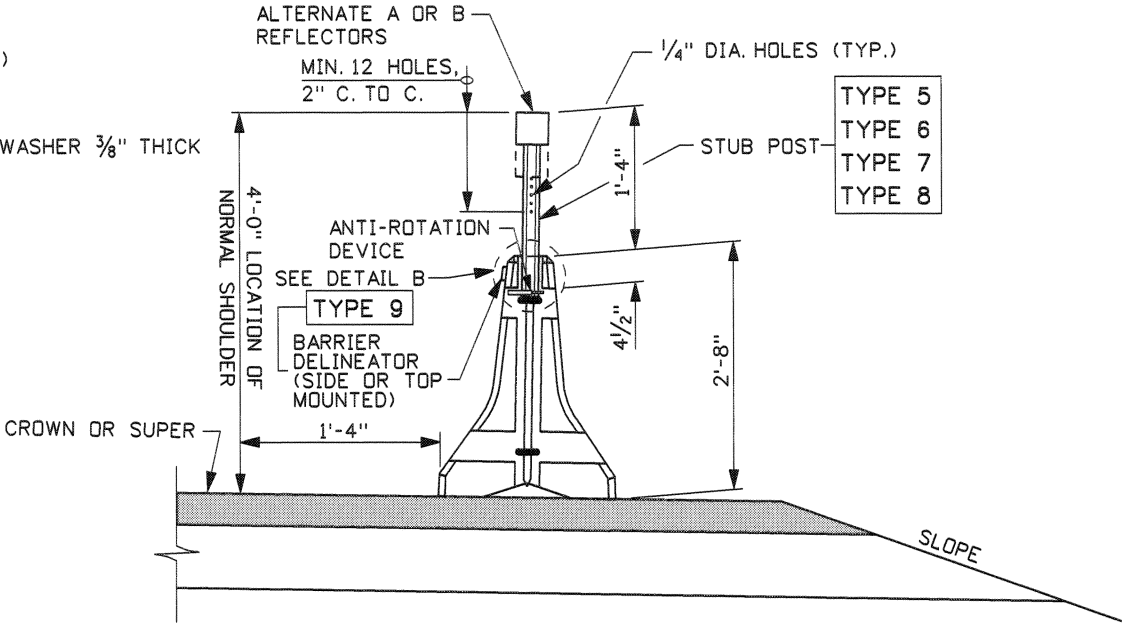
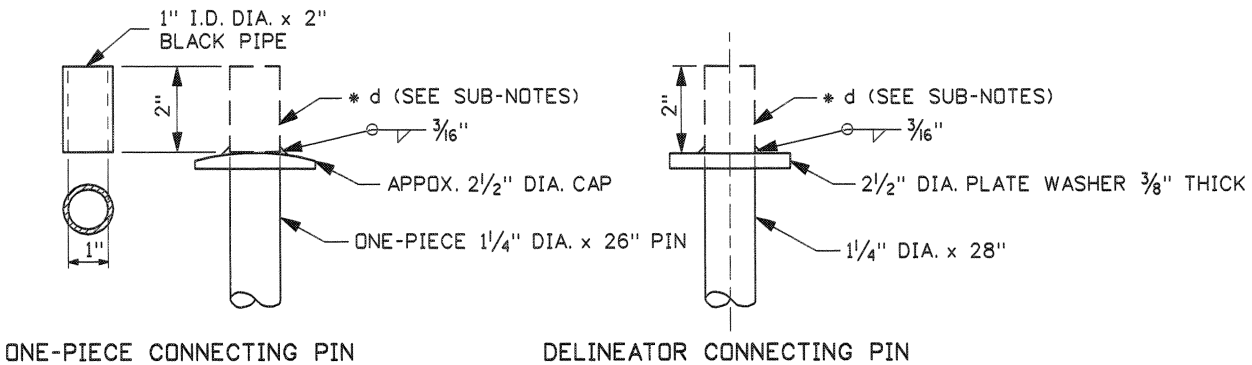
6-20-05

STATE OF IDAHO

DAVID R. JONES

SUB-NOTES

* d THE ONE-PIECE CONNECTING PIN NEEDS MODIFIED AND A LONGER STANDARD PIN MUST BE USED TO ACCOMMODATE DELINEATOR ATTACHMENT.



CONCRETE BARRIER - TYPICAL INSTALLATION

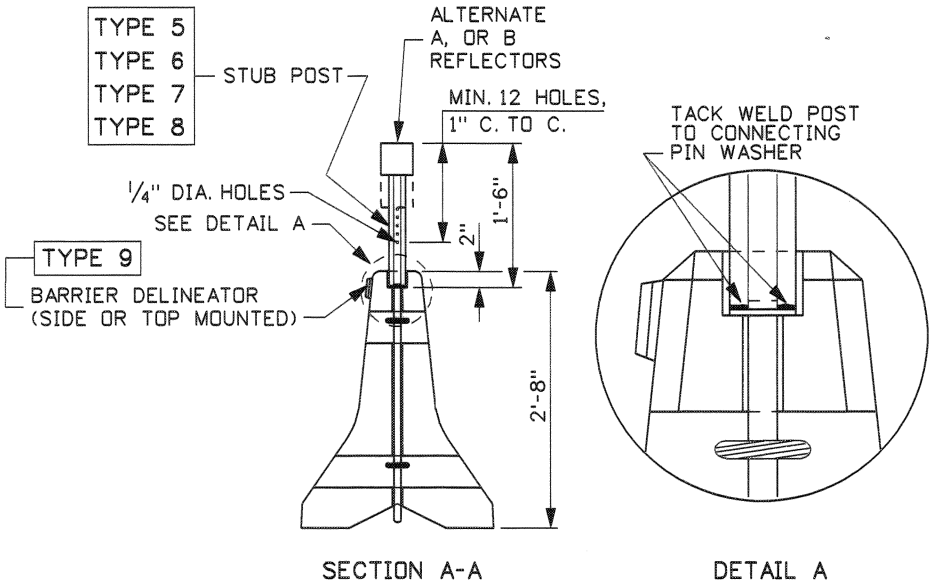
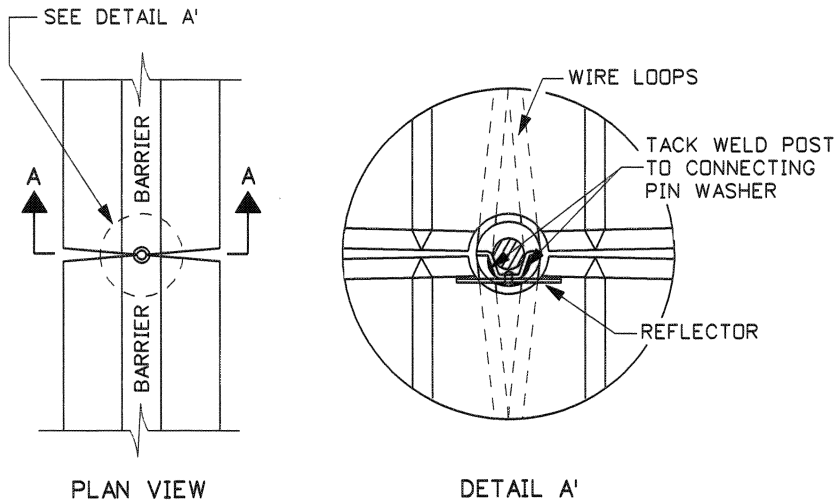
10' OR 20' BARRIER THAT MEETS NCHRP 350 REQUIREMENTS

NOTES

1. WHEN DELINEATION IS PROVIDED ONLY ON CURVES, (3) DELINEATORS SHALL BE PLACED BEFORE AND AFTER THE BEGINNING AND END OF THE CURVE.
2. PLACE TYPE 3 BI-DIRECTIONAL DELINEATORS ON THE LEFT SIDE OF TWO-WAY ROADWAYS AT EXTREME CURVES OF LESS THAN 984 FT. RADIUS (6° OR MORE) TO THE RIGHT. THEY MAY ALSO BE INSTALLED WHERE IT IS NOT POSSIBLE OR PRACTICAL TO INSTALL AND MAINTAIN RIGHT-HAND DELINEATION ON BOTH SIDES.
3. IF HORIZONTAL AND VERTICAL CURVES ARE COMBINED, USE THE MORE RESTRICTIVE SPACING.
4. WHEN DELINEATION IS USED ON TANGENTS, THE SPACING SHALL BE 528 FT. THE TANGENT SPACING SHALL BEGIN BEYOND THE SPACING REQUIREMENTS FOR HORIZONTAL AND VERTICAL CURVES.
5. DELINEATOR REFLECTOR COLORS SHALL BE AS SHOWN ON THE PLANS.
6. POST DETAIL: "R" = RIGID STEEL.
"F" = FLEXIBLE, SELF ERECTING OR YIELDING.
(TYPE "F" DELINEATORS SHALL BE WHITE UNLESS OTHERWISE SPECIFIED).

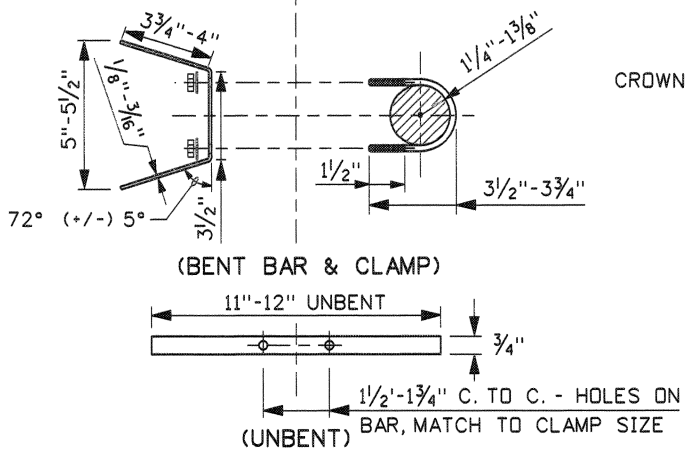
- THE DELINEATORS SHALL BE DESIGNATED, I.E., TYPE 1R OR TYPE 1F, ETC.
7. THE 8'-0" LATERAL PLACEMENT MAY BE JUSTIFIED BY SPECIAL CONDITIONS SUCH AS A NARROW ROADWAY AND A HISTORY OF DAMAGE BY WIDE LOADS.
 8. DELINEATORS MOUNTED ON THE CONCRETE BARRIER ARE DESIGNATED AS FOLLOWS:
TYPE 5 = STUB POST - MONO-DIRECTIONAL 3"x3" REFLECTOR
TYPE 6 = STUB POST - MONO-DIRECTIONAL 3"x6" REFLECTOR
TYPE 7 = STUB POST - BI-DIRECTIONAL 3"x3" REFLECTORS
TYPE 8 = STUB POST - BI-DIRECTIONAL 3"x6" REFLECTORS
TYPE 9 = BARRIER DELINEATOR

9. WHEN DELINEATION IS REQUIRED ON CONCRETE BARRIER SEE THE "CONCRETE BARRIER DELINEATION DETAILS".
10. NOT TO SCALE.

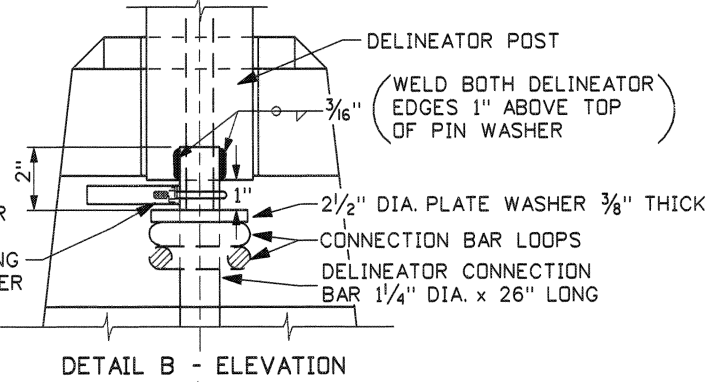


OLD 10' CONCRETE GUARDRAIL INSTALLATION

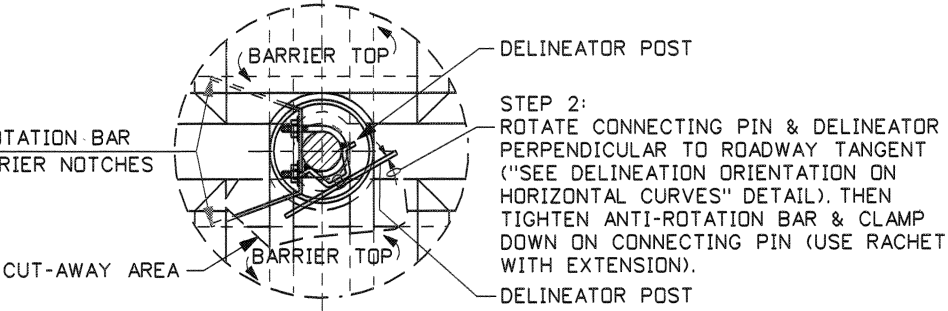
(FOR EXISTING 10' BARRIER THAT DOES NOT MEET NCHRP 350 REQUIREMENTS, FOR MAINTENANCE PURPOSES ONLY.)



STEP 1:
PLACE ANTI-ROTATION BAR IN BARRIER NOTCHES & CLAMP AROUND CONNECTING BAR, PLACE NUTS & WASHER LOOSELY ON CLAMP.



BEND ANTI-ROTATION BAR SNUG TO BARRIER NOTCHES



10' & 20' CONCRETE BARRIER INSTALLATION DETAILS

(DO NOT CONFUSE WITH OLD CONCRETE GUARDRAIL)

REVISIONS							
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IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

Steven C. Hutchinson

ASSISTANT CHIEF ENGINEER (DEVELOPMENT)

Steven C. Hutchinson

CHIEF ENGINEER

STANDARD DRAWING

DELINATORS & INSTALLATION

REQUIRES SHEET 1 OF 2

English

STANDARD DRWG. NO.

G-3-A

SHEET 2 OF 2

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STATE OF IDAHO

DAVID R. JONES